UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Offic
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Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/600,602	10/03/00	UEKI J	0760-0281P

002292 HM12/0228
BIRCH STEWART KOLASCH & BIRCH
8110 GATEHOUSE ROAD
SUITE 500 EAST
FALLS CHURCH VA 22042

EXAMINER	
LOEB,B	
ART UNIT	**PAPER NUMBER**
1636	11

DATE MAILED: 02/28/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Office Action Summary	Application No.	Applicant(s)	
	09/600,602	UEKI, JUN	
	Examiner	Art Unit	
	Bronwen M. Loeb	1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8 .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

DETAILED ACTION

This action is in response to the Amendment dated January 18, 2001. Claims 1-20 are pending.

Claim Objections

1. Claims 1, 2, 4, 6, 7, 9, 11-14, 16 and 18 are objected to because of the following informalities: these claims recite the phrase "in the Sequence Listing" which is redundant and should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 6, and 13 recite the phrase "nucleic acid fragment having". "Having" is not legally defined as open or closed language, thus the metes and bounds of the claims cannot be determined. It is suggested that the phrase be amended to recite either "comprising" or "consisting of".

Claims 3, 8, and 15 are vague and indefinite as they recite the phrase "which contains nucleotides of not more than 120". The meaning of the phrase is not clear. If the intent is that the nucleic acid has no more than 120 nucleotides, it would be

remedial to amend the claim language to read "which has no more than 120 nucleotides".

Claims 4, 9, 11, 12, 16, and 18 recite the phrase "nucleic acid fragment has the nucleotide sequence". "Has" is not legally defined as open or closed language, thus the metes and bounds of the claims cannot be determined. It is suggested that the phrase be amended to recite either "comprising" or "consisting of".

Claim 19 recites the limitation "wherein a region in which a plurality of said nucleic acid fragments which are ligated is formed by inserting said nucleic acid fragments" is unclear, rendering the claim vague and indefinite. It is unclear what "a region" refers to in the context of the claim. Does Applicant intend to claim a method including ligating a plurality of said nucleic acids and inserting the ligation product upstream of said structural gene?

Claim 20 is vague and indefinite as it is unclear whether the claim is directed to a transformed or transgenic plant or to a method used in a plant.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. The claims have been examined assuming the words "having" and "has" are open.

6. Claims 1, 2, 4, 6-9, 13-16 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Morioka et al (USP 5,801,016). Morioka et al teach an isolated nucleic acid fragment comprising the nucleotide sequence shown in SEQ ID No. 1. See Abstract, col. 1, lines 41-48, col. 2, lines 49-58 and col. 3, lines 27-33. Specifically, Morioka et al teach an isolated nucleic acid fragment comprising the sequence shown in that reference's SEQ ID No. 1 (which is the same as SEQ ID No. 3 in the instant specification) except that one or a plurality of nucleotides are added, inserted, deleted or substituted and which has the function to promote expression of a gene downstream thereof. Morioka et al teach a recombinant vector comprising the isolated nucleic acid fragment comprising the nucleotide sequence shown in SEQ ID No. 1, as well as a method for promoting expression of a structural gene. See col. 1, lines 48-56, col. 4, lines 2-20 and col. 10, lines 6-39. Morioka et al also teach the method wherein the nucleic acid is in a plant. Col. 10, lines 6-39.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 2, 4-9, 13-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morioka et al as applied to claims 1, 2, 4, 6-9, 13-16 and 20 above, in view of Ueki et al (Plant Cell Physiol. (1999) 40(6): 618-623). Morioka et al is applied as above. Morioka et al do not teach: a nucleic acid comprising a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated; also a method for promoting expression of a structural gene comprising inserting a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated at a location upstream of a structural gene. Ueki et al teach a nucleic acid comprising a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated. Ueki et al also teach a method for promoting expression of a structural gene comprising inserting a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated, at a location upstream of a structural gene. See Abstract, p. 620, Figs. 1 and 2. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the teachings of Morioka et al with the plural introns taught by Ueki et al. One of ordinary skill in the art would have been motivated to do so because both references teach the expression promoting function of the first intron of rice PLD gene, and Ueki et al demonstrate an increase in expression in the two intron construct compared to a single intron construct (p. 620, Fig. 2).

9. Claims 1, 2, 4-9, 13-16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morioka et al as applied to claims 1, 2, 4, 6-9, 13-16 and 20 above, in view of Ueki et al (EP 0846770 A1; "Ueki et al EP"). Morioka et al is applied as above.

Morioka et al do not teach: a nucleic acid comprising a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated; also a method for promoting expression of a structural gene comprising inserting a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated, at a location upstream of a structural gene. Ueki et al EP teach a nucleic acid comprising a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated. Ueki et al EP also teach a method for promoting expression of a structural gene comprising inserting a plurality of nucleic acid fragments which comprise the recited nucleotide sequence, said fragments being ligated, at a location upstream of a structural gene. See Abstract, p.4 lines 2-9 and 30-57, and p. 5, Table 1. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to modify the teachings of Morioka et al with the plural introns taught by Ueki et al EP. One of ordinary skill in the art would have been motivated to do so because both references teach the expression promoting function of the first intron of rice PLD gene, and Ueki et al EP demonstrate an increase in expression in the two intron construct compared to a single intron construct (p. 5, Table 1).

Conclusion

Claims 1-20 are rejected. Claims 3, 10-12, 17, and 18 are free of the art.

Certain papers related to this application may be submitted to Art Unit 1636 by facsimile transmission. The faxing of such papers must conform with the notices published in the Official Gazette, 1156 OG 61 (November 16, 1993) and 1157 OG 94 (December 28, 1993) (see 37 C.F.R. § 1.6(d)). The official fax telephone numbers for

the Group are (703) 308-4242 and (703) 305-3014. NOTE: If Applicant does submit a paper by fax, the original signed copy should be retained by applicant or applicant's representative. NO DUPLICATE COPIES SHOULD BE SUBMITTED so as to avoid the processing of duplicate papers in the Office.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bronwen M. Loeb whose telephone number is (703) 605-1197. The examiner can normally be reached on Monday through Friday, from 8:30 AM to 5:00 PM. A phone message left at this number will be responded to as soon as possible (usually no later than the next business day after receipt by the examiner).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Richard Schwartz, can be reached on (703) 308-1133.

Any inquiry of a general nature or relating to the status of this application should be directed to Dianiece Jacobs, Patent Analyst whose telephone number is (703) 305-3388.

Bronwen M. Loeb, Ph.D.
Patent Examiner
Art Unit 1636

February 26, 2001

ROBERT A. SCHWARTZMAN
PRIMARY EXAMINER